Effect of Using Andaliman Herbs in Making Traditional Batak Food (Saksang and Arsik)

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Abstract: Indonesia is a country with various cultures, histories, races, and religions. This country is so abundant with these commodities that it has the nickname "The Spice Islands," or the island of spices. Different tribes use different spices and it all affects the final product, whether it is a product for use or for consumption. Therefore, researchers conducted this study with the aim of knowing the effect of Andaliman (X) on Batak Traditional Food (Saksang and Arsik) (Y). This study used a sample of 56 respondents who were measured using a questionnaire consisting of 27 statements. The tests carried out in this study were validity tests, reliability tests, descriptive statistical analysis, coefficient of determination, simple linear analysis, correlation tests and hypothesis testing. Based on the research that has been done. Result a mean of 3.38 in the very good category and Batak Traditional Food (Saksang and Andaliman) with a mean of 3.56 in the very high category. Andaliman has a strong relationship with Traditional Batak Food (Saksang and Arsik). Andaliman (X) has an influence on Traditional Batak Food (Saksang and Arsik) (Y) by 63.6% and the remaining 36.4% is influenced by other factors not examined in this study.

Keyword: Andaliman, Spices, Saksang, Arsik

1. Introduction

Indonesian has many types of food that are scattered in every region. Research from senior culinary expert Prof Dr Ir. Murdijati Gardjito proves that the number of culinary delights in Indonesia is in the thousands. The list can still grow because according to her there are still many culinary delights whose names she doesn't know and of which there are around 3,259 whose names he knows. Apart from that, as a country with a large biodiversity, Indonesia is blessed with a large wealth of culinary raw materials, ranging from spices to vegetables and fruits. Indonesia has more than 200 vegetables, 400 fruits, 1,600 spices (Ketaren, 2021). Indonesia is a country rich in art and culture and is inhabited by various tribes who live in all corners of the archipelago (Abduh et al., 2023), one of which is the Batak tribe.

The Batak tribe is the third largest ethnic group in Indonesia. The Batak lands are centered on Lake Toba and part of the Bukit Barisan mountains in the province of North Sumatra (Haloho, 2022). The Batak tribe is an indigenous people who come from the province of North Sumatra. The Batak tribe is divided into six sub-tribes, namely Simalungun Batak, Pakpak Batak, Angkola Batak, Karo Batak, Toba Batak, and Mandailing Batak (Wira et al., 2021; Wahyuni et al., 2022). One of the characteristics of the Batak people is that they always have a clan or family name. Marga is mentioned at the end of the name which is derived based on patrilineal or patrilineal descent(Haloho, 2022). The Toba Batak tribe is the most well-known Batak sub-tribe in Indonesia, so it is not uncommon for people to think that the Batak tribe only consists of the Toba Batak tribe. Likewise, in terms of culinary, each sub-tribe has its own special food, but many foods have been made by various Batak sub-tribes, but there are two foods that stand out the most, namely Saksang and Arsik.Saksang is a typical Batak dish made from small chopped pork, dog or buffalo meat and seasoned with spices and coconut milk and cooked either using the blood of the slaughtered animal (margota) or processed spices without blood.

According to(Syahrul& Sumardi, 2019), despite the fact that saaksang is widely known by various tribes or Batak sub-tribes, saksang is often associated specifically as a traditional Toba Batak dish. Saksang is an important dish that must be served in traditional Batak ceremonies, especially at traditional weddings. Saksang, along with roast, arsik and mashed sweet potato leaves, is a popular dish in Batak cuisine, and is commonly served at Lapo, traditional Batak food and drink stalls. Because it contains pork or dog meat, as well as blood, this dish is not halal, but blood and non-halal meat can be removed if desired so that it can be served to a wider audience. If this is done, the taste and authenticity of saksang meal will not be the same as what Batak eat in general. The plants or herbs and spices used in making saksang food are as follows:

Table 1. Herbs and spices in making Saksang.

No	Common	Traditional Name	Latin Name
1	Coriander	Hatumbar	Coriandrumsativum
2	Coconuts	Harambir	Cocos nucifera
3	Oil Palm	Dali – dali	Vigna unguiculata
4	Candlenuts	Gambiri	Aleurites muloccana
5	Shallot	Baoangnarara	Allium cepa
6	Garlic	Baoangnabontar	Allium sativum
7	Salam leaves	Salam	Syzygiumpolyanthum
8	Lemon grass	Sanggesangge	Cymbopogoncitratus
9	Sugarcane	Tobu	Saccharum officinarum
10	Andaliman	Andaliman	Zanthoxylumacanthopodium
11	Limes	UnteHapas	Citrus aurantifolia
12	Red Chili	Lasiaknarara	Capsicum annuum
13	Bird eye	ChilliLasiaksirambu	Capsicum frutescens
14	Turmeric	Hunik	Curcuma longa
15	Galangal	Halas	Languas galanga

Source: Wahyuni et al. (2022).

Arsik is one of the typical dishes of the Batak region which is quite popular. Unlike the Saksang which is more dominant with the Toba Batak tribe, Arsik is a dish that is more identical to the Toba Batak tribe in Tapanuli, especially the northern Tapanuli, even though this food remains a typical Toba Batak food in general. Arsik or in the local Batak language "*Dekke Na Niarsik*" is a typical Toba Batak food which means dry cooked fish, which is one of the traditional foods of the Batak people (Wahyuni et al., 2022). This food, which is better known as Arsik Fish, is a symbol of the gift of life in Batak society. Arsik fish is presented in several Batak people's life cycle ceremonies, such as weddings and births.

Quoted from (Hasairin, 2014) cooking the arsik fish by mixing the fish with mashed spices such as shallots, garlic, ginger, turmeric, candlenut, red chilies, andaliman until smooth then put them in a successive pot. After that, put it on the fire and stir it occasionally, cook until cooked and the water dries up. Arsik is a product of processed carp typical of the Samosir Batak tribe which is often served at traditional ceremonies. Besides that, arsik goldfish is also known as yellow seasoned fish, which is processed by boiling. Considering that the arsik carp product has become an icon for the people of Samosir(Tamba et al., 2021) Arsik means "dry" which comes from the word "Marsik" which means cooked until dry(Wahyuni et al., 2022). The plants or herbs and spices used in making arsik food are as follows:

Table 2. Herbs and spices in making Arsik

No	Common	Traditional Name	Latin Name
1	Gelugur Acid	Migar/Sotul	Garcinia Atroviridis
2	Cundle Nuts	Gambiri	Aleuritesmuloccana
3	Long Beans	Dali – Dali	Vignaunguiculata
4	Batak Onion	Baoang Batak	Allium Schoenoprasum
5	Shallot	Baoang Na Rara	Allium Cepa
6	Garlic	BaoangnaBottar	Allium Sativum
7	Salam Leaves	Daun Salam	Syzygiumpolyanthum
8	Lemon Grass	Sangge – Sangge	Cymbopogoncitratus
9	Andaliman	Andaliman	ZanthoxylumacAnthopodium
10	Red Chilli	Lasiaknarara	Capsicum Annuum
11	Bird Eye Chilli	Lasiaksirambu	Capsicum Frutescens
12	Ginger	Pege	Zingiberofficinale
13	Combrang	Rias	Etlingeraelatior
14	Tumeric	Hunik	Curcuma Longa
15	Galangal	Halas	Languasgalanga

Sumber: Wahyuni et al. (2022).

Andaliman fruit (Zanthoxylumacanthopodium DC.) is a typical plant of North Sumatra which belongs to the genus Zanthoxylum, tribe Rutaceae(Kristiana et al., 2018). Andaliman is a type of spice made from wild plants which are known by the Batak people North Sumatra. Andaliman is a spice plant that grows in the mountains of Lake Toba and its surroundings. It is suspected that the spread of plants in general was through birds eating the andaliman fruit, then through the bird's droppings the andaliman seeds were spread everywhere and grew wild. In North Sumatra, this plant grows wild in various places, namely the Angkola, Mandailing, Humbang, Silindung,

Dairi, and Toba Holbung areas (Veronica, 2021). The systematics of andaliman plants according to Sharma (1993) is as follows (Anggraeni, 2020).

The Andaliman plant (Zanthoxylumacanthopodium DC) is a spice plant that is widely found in the Toba Samosir and North Tapanuli Regencies, North Sumatra, at an altitude of 1,500 m asl. It is found growing wild in the Tapanuli area and is used as a spice in Angkola and Batak traditional dishes. Mandailing Batak (Asbur& Khairunnisyah, 2018).This spice is only known in Indonesia for Batak cuisine, so it is known to outsiders as Batak pepper. Its efficacy, which is able to eliminate the fishy smell of raw fish, makes andaliman a mainstay of spices in Batak specialties such as arsik and saksang. Andaliman has a soft citrus scent but spicy enough to leave a numb or numb sensation on the tongue, though not as hot as chili or pepper. Taste is in the tongue-tied due to the content of hydroxy-alpha-sanshool in these herbs. Apart from Batak cuisine, the use of andaliman as a cooking spice is also known in East Asian and South Asian cuisines. In Indonesia alone, andaliman grows wild in the bushy forests of Toba Regency, Samosir Regency, North Tapanuli Regency and Dairi Regency. Meanwhile, in Simalungun Regency, there are 3 reliance-producing sub-districts, namely Raya, DologMasagal and Purba sub-districts.

Typical foods of the Toba Batak tribe such as Arsik and Saksang have similarities in the types of plants, parts of plants and processing techniques used by local people in making food from the ZingiBeraceaefamily, such as ginger, turmeric and andaliman. The processing techniques for each typical Batak Toba food are very different, Arsik is cooked dry, and Saksang is cooked to separate the spices and meat. The meaning of special foods such as arsik and Saksang is generally an expression of gratitude to God for health, birth or when a family event is taking place (Wahyuni et al., 2022).

From the background above, it can be seen that the use of andaliman in making saksang and arsik has an important role and must be present in the manufacture of both menus because this spice distinguishes Batak food from other foods. However, sometimes some people cook this Batak food without using Andaliman or replacing it with other spices; as a result, not only does it change the tradition but also changes the taste of the food.

2.   Methodology

This study uses a descriptive method with a quantitative approach. This writing uses bivariate analysis, which means data analysis is done to look for correlations or influences between two or more variables studied (Sugiyono, 2018). The data collection method is by distributing questionnaires via Google Form, and the sampling technique used in this research is the census technique by taking 56 respondents from the total population of restaurant businesses spread around Lake Toba who still make dishes or have made arsik and saksang dishes. totaling 61 (Badan Pusat Statistik, 2012), then processed using SPSS with an interval scale of 1-4. The analysis techniques used include validity testing, reliability testing, coefficient of determination, and hypothesis testing.

3.   Results and Discussion

Table 3. Characteristics of respondents.

Characteristics	Frequency	Percent (%)
Gender		
Male	29	51.8
Female	27	48.2
Age		
15 – 20 year	11	19.6
20 – 40 year	23	41.1
40 – 60 year	22	39.3
Education		
High School	31	55.4
Bachelor degree	23	41.1
Magister	2	3.6
Work		
Employee	26	46.4
House Wife	8	14.3
Student	15	26.8
Others	7	12.5
Status		
Married	30	53.6
Not Married	26	46.4

Source: Data processed by researchers (2023).

Based on Table 3, the number of male respondents has a higher percentage than the percentage of female respondents. The percentage of male respondents was 51.8% or 29 people, while the percentage of female respondents was 48.2% or 27 people. The number of respondents aged 20-40 years has a higher percentage than the percentage of respondents aged 40-60 years and 15-20 years. The percentage of respondents aged 20-40 years is 41.1% or 23 people, while the percentage of respondents aged 40-60 years is 39.3% or 22 people, and respondents aged 15-20 years is 19.6% or 11 people. This proves that those who make the most arsik or saksang are between 20 and 60 years old.

The percentage of respondents with high school/vocational high school education is higher than that of S1/D4 and S2 respondents. The percentage of SMA/SMK respondents was 55.4% or 31 people, while the percentage of S1/D4 respondents was 41.1% or 23 people, and Masters respondents were 3.6% or 2 people. The number of respondents with employee jobs has a higher percentage compared to the percentage of housewives, students and others. The percentage of employee respondents is 46.4% or 26 people, while the percentage of student respondents is 26.8% or 15 people, housewife respondents are 14.3% or 8 people, while others are 12.5% or 7 people. While the percentage of married respondents has a higher percentage than the percentage of unmarried respondents. The number of respondents who were married was 53.6% or 30 people, while the percentage of respondents who were not married was 46.4% or 26 people.

Table 4. Validity test.

Variable	r-tabel	r-count
Andaliman	0.222	0.388
Saksang	0.222	0.654
Arsik	0.222	0.705

Source: Data processed by researchers (2023).

All statement items of the Andaliman variable totaling 17 indicators, the Saksang variable 5 indicators and the Arsik variable 5 indicators are declared VALID according to the basis of decision making in the validity test, namely if r (count) > r (table) then the statement is declared VALID, so it is feasible to be analyzed.

Table 5. Reliability test.

Variable	Cronbach's Alpha
Andaliman	0.895
Saksang	0.871
Arsik	0.875

Source: Data processed by researchers (2023).

Based on Table 5, the Cornbach's Alpha value for the Andaliman Variable shows a value of 0.895, the Saksang Variable with a value of 0.871 and the Arsik variable with a value of 0.875 then according to Cornbach's Alpha criteria if the value is between 0.80 - 1.00, it is included in the "Very Strong" criteria.

Table 6. Correlation Results of the andaliman variable to traditional food variables (Saksang and Arsik).

		Andaliman	Traditional Food Batak
Andaliman	Pearson Correlation	1	0.636
	Sig. (2-tailed)		0
	N	56	56
Traditional Food Batak	Pearson Correlation	0.636	1
	Sig. (2-tailed)	0	
	N	56	56

Source: Data processed by researchers (2023).

Based on Table 6, the value of the X Andaliman variable has a relationship with the Y variable Batak Traditional Food which is 0.636 according to the Table of Correlation Levels at the STRONG level, as in the interval 0.600 - 0.799. There is a strong positive relationship between the Andaliman Variable and the Traditional Batak Food Variable. If the Andaliman Variable Increases, the Batak Traditional Food Variable will also increase.

Table 7. Determination coefficient test

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.636a	0.405	0.394	3.122

Source: Data processed by researchers (2023).

Based on Table 6, the value of the X Andaliman variable has a relationship with the Y variable Traditional Batak Food which is 0.636 according to the Table of Correlation Levels at the STRONG level, as in the interval 0.600 - 0.799. Then, it is known that the coefficient of determination (R^2) is 0.405, meaning that the influence value of the Andaliman Variable on Traditional Batak Food is 40.5% and the remaining 59.5% is influenced by other variables but not examined in this study.

Tabel 8. Simple Linear regression results of andaliman variables on traditional Batak food variables.

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1.	(Constant)	14.274	3.553		4.017	0.000
	Total_X	0.373	0.061	0,636	6.061	0.000

Source: Data processed by researchers (2023).

Table 8 shows a simple linear regression equation between the Andaliman Variable (X) and Batak Traditional Food (Y) with the following equation: Y = 14.274 + 0.373X
Based on the calculation results above, a value of 14,274 is obtained. This shows that if the Andaliman variable (X) is 0, then the value of traditional food (Y) is 14,274. The regression coefficient value of Andaliman (X) is 0.373, this indicates that every time there is an increase of one (1) respondent's assessment unit for Andaliman (X), it will increase Traditional Batak Food by 0.373. If Andaliman increases, it will further increase Batak Traditional Food and vice versa if Andaliman decreases, it will decrease Batak Traditional Food.

Hypothesis test, T test was conducted to determine the effect of the Andaliman Variable (X) on the Batak Traditional Food Variable (Y). This T test is done by comparing the calculated T value with the T table value. If T count > T table, it can be stated that the Andaliman Variable (X) has an influence on the Batak Traditional Food Variable (Y). The test in this study used a significance level of 5%, but because this study was tested in two ways, the significance level was 0.05 according to the formula N = $\alpha/2$.

The value of df (degree of freedom) is calculated using the formula df = n – 2, so that it becomes df = 56 – 2 = 54, which means that the value of df is 104, so it can be seen that the value in the T table for the value of df 54 is 0.222. The calculated T value contained in Table 4.42 is 6.061 which means that the value is greater than 0.222 then the T calculated > T table value means the hypothesis is accepted (H0 is rejected and H1 is accepted), where it can be concluded that the Andaliman Variable (X) has a partial effect on the Batak Traditional Food variable (Y).

4.   Conclusion

The implications of the research results show that the respondents' assessment of the Andaliman Effect on Traditional Batak Cuisine (Saksang and Arsik) shows that the results of the respondents' answers tend to be in the same direction. Furthermore, after the results of the questionnaire were analyzed using simple linear regression analysis, the following results were obtained variable X: Andaliman (Aromatic, immune booster, food stimulant, chronic drug) influence and relations variable Y: Traditional Batak Food (Saksang, Arsik). This shows that this study states that the Andaliman variable has a unidirectional relationship (table 7) and affects the Batak Traditional Food Variable (table 7). Therefore, the use of Andaman in the manufacture of saksang and arsik food cannot be replaced with other spices, or substitutes are sought. Andaliman has been used as a typical spice for Batak cuisine and various food and beverage derivative products (Nurlaeni et al., 2021).

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